

CLAIMS

WHAT IS CLAIMED IS:

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CONCL.

1. A high-speed image sensor comprising a plurality of signal converting means for generating electric signals according to an incident light intensity and a plurality of electric signal recording means for storing electric signals output from corresponding signal converting means,

wherein said electric signal recording means is linear shaped and provided with a read-out line for each of longitudinal sections thereof, the read-out line being used for directly reading out the electric signals out of a light receptive area.

2. A high-speed image sensor comprising a plurality of signal converting means for generating electric signals according to an intensity of electromagnetic waves or particle streams and a plurality of electric signal recording means for storing electric signals output from corresponding signal converting means,

wherein said electric signal recording means is linear shaped and provided with a read-out line for each of longitudinal sections thereof, the read-out line being used for directly reading out the electric signals out of a light receptive area.

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3. The high-speed image sensor as in ^{claim 1}~~claims 1 or 2~~,
further comprising means for directly connecting said signal
converting means with the ~~read-out~~ lines without passing
through said electric signal recording means.

4. A high-speed image sensor comprising a plurality of
signal converting means for generating electric signals
according to an incident light intensity and a plurality of
electric signal recording means for storing electric signals
output from corresponding signal converting means,

wherein said signal converting means are disposed in
all of or every other square or rectangular frames on a light
receptive area; and

wherein a center line of said electric signal means
is inclined with respect to a line connecting two positions
where electric signals are input from two of said signal
converting means adjacent to each other in an extension
direction of said electric signal recording means to
corresponding electric signal recording means.

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5. The high-speed image sensor as in ^{claim 1}~~any one of claims~~
~~1 through 4~~, wherein said electric signal recording means
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is a charge coupled device type electric signal recording
means.

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a CONCL. 6. The high-speed image sensor as in ^{claim 1} ~~any one of claims~~
~~1 through 4~~, wherein said electric signal recording means
is a MOS type electric signal recording means.

7. The high-speed image sensor as in ^{claim 5} ~~claims 5 or 6~~,
wherein each of said signal converting means is divided into
a plurality of portions insulated from each other.

8. The high-speed image sensor as in claim 6, wherein
each of said signal converting means is divided into a
plurality of portions insulated from each other and wherein
plurality of amplification means for amplifying the electric
signals are interposed between said plurality of divided
portions and said electric signal recording means.

9. The high-speed image sensor as in ^{claim 5} ~~claims 5 or 6~~,
further comprising a cuttable band-shaped space which
continuously extends from one side to another side of the
light receptive area.

10. A high-speed image sensor comprising a plurality of
signal converting means for generating electric signals
according to an incident light intensity and a plurality of
electric signal recording means for storing electric signals
output from corresponding signal converting means,

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1. The first part of the paper is devoted to the study of the properties of the function $f(x)$ defined by the equation $f(x) = \int_0^x f(t) dt$. It is shown that $f(x)$ is a continuous function and that it satisfies the functional equation $f(x+y) = f(x) + f(y)$. The function $f(x)$ is also shown to be differentiable and its derivative is found to be $f'(x) = f(x)$.